



Clean Bay Strategy

SOUTH BAY ACTION PLAN

ANNUAL POLLUTION PREVENTION REPORT

FEBRUARY 2007

SAN JOSE/SANTA CLARA
WATER POLLUTION
CONTROL PLANT

Administered by the Environmental Services Department, City of San José

TRIBUTARY AGENCIES:

Cities of: San José, Santa Clara and Milpitas • Cupertino Sanitary District
West Valley Sanitary District —including Campbell, Los Gatos, Monte Sereno and Saratoga
County Sanitation Districts 2-3 • Sunol and Burbank Sanitary Districts

February 27, 2007

Mr. Bruce Wolfe
Executive Director
California Regional Water Quality Control Board
San Francisco Bay Region
1515 Clay Street, #1400
Oakland, CA 94612

Dear Mr. Wolfe:

SUBJECT: Submittal of Annual Update Reports and Workplans as Required by Order Number R2 2003-0085, NPDES Permit No. CA0037842.

The following Clean Bay Strategy is being submitted in fulfillment of the San José/Santa Clara Water Pollution Control Plant (Plant) NPDES permit, Order No. R2 2003-0085, requiring annual reports on Plant watershed activities, including an update on the South Bay Action Plan, Contingency Plan, and the Annual Pollution Prevention Report.

As lead agency of a Joint Powers Authority, the City of San Jose operates the San José/Santa Clara Water Pollution Control Plant. The Plant treats wastewater from a 300 square mile service area serving 1.3 million residents and 16,000 businesses, including many of the leading computer and electronics manufacturing companies that make up "Silicon Valley."

The City's integrated watershed protection approach to water quality considers all factors influencing water quality in the South Bay and seeks to solve environmental problems in the most cost-effective manner.

The enclosed 2006 Clean Bay Strategy Report includes the following:

The South Bay Action Plan is a summary of the activities and achievements in reducing flow to the South Bay for the period January 1, 2006 to December 31, 2006 unless otherwise noted.

Monitoring fresh water flows and the changes in marsh habitat in the South Bay serves as the primary effectiveness measure for South Bay Action Plan (Action Plan) activities. During the 2006 dry weather season (May-October), the Plant discharged an average of 102 million gallons per day (mgd) – well below the 120 mgd flow trigger for the ninth consecutive year. The South Bay Water Recycling Program (SBWR) delivered a maximum of 14.1 mgd during the dry weather season and 8 mgd as an annual average in 2006, up 8% from last year. Phase 2 expansions continued in 2006 with the construction of the Zone 3 Reservoir and installation of 7,000 linear feet of a 20-inch reliability loop that connects the San Jose and Santa Clara pipelines providing additional reliability in the system.

Other SBWR accomplishments for 2006 include a joint study session briefing in September for elected officials from San Jose's City Council and the Santa Clara Valley Water District (Water District) Board of Directors on water supply issues facing Santa Clara County in the next 30 years. Of the three options discussed, the advanced treatment of recycled water for groundwater recharge was proposed as the most cost beneficial. The City continues to work with regional groups and the Water District to obtain California Proposition 50, Integrated Regional Water Management grant funding for future Phase 2 projects.

The water conservation program met its four-year water conservation goal of 1 mgd a year ahead of schedule. The City continues its successful water conservation programs in collaboration with the Water District. These conservation efforts have contributed to reduce per capita indoor water use, which has remained flat from a growing residential sector. The City provided \$220,000 in funding to the Water District for rebate programs for the installation of water efficient appliances and fixtures resulting in an estimated 115,000 gpd in water savings. Additional financial incentives of \$60,000 were provided to commercial and industrial dischargers who implemented flow reduction projects resulting in at least 28,000 gpd in reduced discharge to the Plant.

Since freshwater Plant flows have been considered a factor in the conversion of salt marsh to brackish and fresh marsh in the area of the Plant's discharge, with potential impacts to endangered species habitat, the City completed synoptic surveys for the California clapper rail and the salt marsh harvest mouse in 2006. The surveys confirmed the presence of both endangered species and found a greater density of mice in brackish marsh than has ever been reported in the South Bay indicating that brackish marsh may have more habitat value for the salt marsh harvest mouse than previously thought.

The City is continuing with an extensive Plant Master Planning effort that will provide a roadmap for the next 30 years of capital improvement projects, facilities, operations, buffer land uses and financing for the Plant.

The South Bay Action Plan report also includes a description of those activities that are ongoing or planned for 2007 and a contingency plan should discharge flows begin to rise more rapidly than expected.

The Annual Pollution Prevention Report is a summary of activities in place to minimize the Plant's contribution of priority pollutants to the South Bay. These activities include targeted source control measures as well as other local and regional outreach efforts. The Plant has maintained compliance with all its discharge limits in 2006. Pollution prevention activities relating to copper, nickel, mercury, cyanide, pesticides, and fats, oils, and grease (FOGs) are described in the Annual Pollution Prevention (P2) Report that has undergone additional format changes in response to the Regional Water Board's letter of May 25, 2006. Furthermore, the City initiated several organizational changes to enhance its pollution prevention efforts. A new section dedicated to Pollution Prevention was formed.

During 2006, the City completed an Industrial Local Limits re-evaluation and submitted a report to the Regional Water Board in June describing the evaluation and recommendations. A sector loading sampling program was also completed to update the residential, commercial, and industrial source identification information in the Plant's service area. The updated loading data will help identify and prioritize pollution prevention effort and assist in reviewing current programs as well as develop future programs.

The Annual P2 Report also includes the results of a special study conducted at the Plant and titled the Mercury Fate and Transport Study. Initial results appear to confirm earlier preliminary information that the Plant removes in excess of 95% of total and methyl mercury.

The City has been active locally and regionally in addressing emerging contaminants. As part of the work of the Watershed Management Initiative, a white paper on triclosan was developed that was distributed nationwide. As a result, the Plant no longer purchases soaps containing triclosan. The City is also implementing an environmentally preferable purchasing policy and participates in the Product Stewardship Council. In addition, the City participated in take-back events for expired and used pharmaceuticals where over 300 participants dropped off over 825 pounds of medications and 20 mercury thermometers. These Safe Medicine Disposal days were extremely successful in the Bay Area and press coverage highlighted proper disposal methods for old medicines.

Future activities will include further development of the City's Dental Amalgam Program, enhancement to the City's comprehensive Fats, Oils and Grease (FOG) program, further research and pilot collection programs for pharmaceuticals, and collaboration with other agencies to promote legislation supporting product stewardship models to address pharmaceutical disposal and other pollutants of concern.

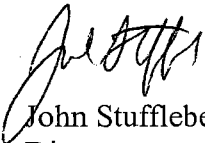
Additional efforts in 2006 to promote sustainable management initiatives included Green Business Certification of the New San Jose City Hall, the City's Green Building program, and the adoption of the United Nations Urban Environmental Accords by the San Jose City Council.

The Environmental Services Department initiated work on the development of an Environmental Management System (EMS) consistent with the ISO 14001 standard. The initial EMS process focused on the Municipal Water System and this City operation will seek ISO 14001, third party registration in the later half of 2007. The Plant is currently in the process of collecting information in support of developing an EMS.

The City continues to actively participate in regional Total Maximum Daily Load (TMDL) development, Bay-wide planning and management efforts such as the South Bay Salt Pond restoration effort, the Santa Clara Basin Watershed Management Initiative, Bay Area Stormwater Management Association (BASMA), California Association of Sanitation Agencies (CASA), Clean Estuary Partnership (CEP), Bay Area Clean Water Agencies (BACWA), Tri TAC and the San Francisco Estuary Regional Monitoring Program (RMP). Details of Total Maximum Daily Load and Site Specific Objective development through the CEP are reported by the CEP as part of their annual reporting to the Regional Water Board. Those detailed activities are not repeated in the enclosed report.

The City looks forward to continue working with Regional Water Board staff to address water quality and permit issues. If you have any questions, please contact me at 408-535-8560.

Sincerely,



John Stufflebean
Director

Enclosure

cc: Tong Yin, RWQCB, Permitting Section
Heather Ottaway, RWQCB, Pollution Prevention

INTRODUCTION

This report fulfills the San Jose/Santa Clara Water Pollution Control Plant's (Plant) NPDES Permit requirement to submit an annual report to the San Francisco Bay Regional Water Quality Control Board (Regional Water Board). Unless otherwise noted, it covers activities that occurred during the period January 1, 2006 to December 31, 2006 under Permit Order R2 2003-0085, Provision E. 19 (Annual Status Reports).

The report is structured into two distinct sections:

1. 2007 Action Plan Workplan, Contingency Plan and the 2006 South Bay Action Plan Activity Report
2. Annual Pollution Prevention (P2) Report. The annual P2 report summary includes pollutant priorities, sources of pollutants, pollution prevention progress, and plans for the next year.

The two sections are stand-alone reports as requested by Regional Water Board staff and interested stakeholders to facilitate review.

The City of San Jose (City) supports environmental and regulatory programs that provide efficient and effective services to the community by linking environmental excellence to economic prosperity and a high quality of life.

EXECUTIVE SUMMARY

The City operates the San Jose/Santa Clara Water Pollution Control Plant on behalf of its tributary agencies. In addition, the City is a member of the Santa Clara Valley Urban Runoff Pollution Prevention Program.

Since 1994, the City has managed its pollution prevention and water quality programs using the guidelines established in the Clean Bay Strategy (CBS). The policies and principles of watershed management from the City's perspective are:

- Holistic approach to environmental restoration.
- Regulatory certainty for the City and industrial dischargers.
- Sound science and data collection as a basis for adaptive management decisions.
- Environmental equity.
- Stakeholder involvement and education.
- Cost-effective environmental protection.

During 2006, the Environmental Services Department was reorganized in an effort to better meet future priorities and challenges. The Department has four operational divisions: the Plant, Watershed Management (includes the pretreatment and urban runoff programs), Integrated Waste Management and the Water Resources Division (Municipal Water System and South Bay Water Recycling). In addition, there are four strategic support service divisions: Planning and Policy, Marketing and Communications, Technical Services, and the Administrative Section. A copy of the organization chart is enclosed in Attachment 1 of the South Bay Action Plan.

The following watershed activities are summarized in the South Bay Action Plan and Annual Pollution Prevention Reports.

SOUTH BAY ACTION PLAN

Water Recycling

The South Bay Water Recycling Program (SBWR) delivered a maximum of 14.1 million gallons per day (mgd) during the dry weather season and 8 mgd as an annual average in 2006, up 8% from last year. Phase 2 expansions continued in 2006 with the construction of the Zone 3 Reservoir and installation of 7,000 linear feet of a 20-inch reliability loop that connects the San Jose and Santa Clara pipelines providing additional reliability in the system. Also, an additional 900 linear feet of recycled water pipeline is ready to serve the Guadalupe Community Garden. SBWR will provide training to each of the community gardeners participating in this project, which is co-funded by the WaterReuse Foundation.

Other accomplishments for 2006 include a joint study session held on September 27, 2006 briefing elected officials from San Jose's City Council and the Santa Clara Valley Water District (Water District) Board of Directors on water issues facing Santa Clara County in the next 30 years. At the study session, SBWR and the District collaborated on the presentation of three options that included recycled water to address a projected water supply deficit of 125,000 AF by 2030. Of the three options, the advanced treatment of recycled water for groundwater recharge was proposed as the most cost beneficial.

SBWR continues to work on both the state and national levels to obtain funding for the remaining Phase 2 projects. Final decisions for funding from the State of California Proposition 50, Integrated Regional Water Management (IRWM) grant process are expected shortly. The City is hopeful that SBWR's funding requests coordinated with the nine other counties in our region and submitted as a Bay Area Clean Water Association (BACWA) proposal will be approved with suitable support. One of the many projects submitted by SBWR for Proposition 50 funding is an advanced water treatment plant in collaboration with the Water District. System enhancements planned for 2007 to improve pump station reliability and retrofit sites in Milpitas are incorporated into the Bay Area Regional Water Recycling Program

(BARWRP) Master Plan of 1999. Other planned Phase 2 projects that are not yet funded include several extensions in the cities of San José, Santa Clara, and Milpitas to increase recycled water's accessibility in our region. The total diversion supplied in 2006 by these pipelines is estimated to be over 3.9 billion gallons (12,000 AF).

Water Conservation

The City met its 4-year water conservation goal ahead of schedule and continued its successful water conservation programs in collaboration with the Water District, as well as its financial incentive programs for residential, commercial, and industrial customers. These conservation efforts have contributed to reduce per capita indoor water use, which has remained flat even with a growing residential sector. In fiscal year 2005/2006, the Water Efficiency Program (WEP), which is focused on residential and commercial customers, provided \$220,000 in funding to the Water District whose rebate programs for the installation of water efficient fixtures and appliances resulted in a reduction of 115,000 gpd to the Plant. In 2006, the Water Efficient Technologies (WET) program provided financial incentives to industrial dischargers totaling about \$60,000 resulting in approximately 28,000 gpd flow reduction to the Plant. The WET projects included the retrofit of urinals to zero water consumption urinals, and reuse of water in industrial processes.

Synoptic Surveys of the Clapper Rail and Salt Marsh Harvest Mouse

In order to examine the presence or absence of two endangered species in the study area, the City implemented its workplan to perform synoptic surveys during 2006. The City worked closely with the Regional Water Board, California Department of Fish and Game, and the U.S. Fish and Wildlife Services (USFWS) to ensure that the surveys conducted met the most recent USFWS protocols. There were 154 individual California clapper rail station surveys conducted during the breeding season from February to May 2006. The City also conducted the salt marsh harvest mouse surveys at three trapping locations. The studies provided an assessment of the relative distribution of clapper rails and found a greater density of mice in brackish marsh than has ever been reported in the South Bay, indicating that brackish marsh may have more habitat value for the salt marsh harvest mouse than previously thought. The final reports are available on the City's website at http://www.sanjoseca.gov/esd/pub_res.asp and a copy is attached to this report in Attachment 2 of the South Bay Action Plan.

Plant Master Planning Effort

The City is in the process of developing a Plant Master Plan that will provide a roadmap for the next 30 years of capital improvement projects, facilities, operations, and financing for the San Jose/Santa Clara Water Pollution Control Plant. The Plan will address public health and environmental protection issues while ensuring the Plant's continued reliable and affordable operation on behalf of the City and the Tributary Agencies. The Plan will incorporate the Opportunities and Constraints Report for the Plant's bufferlands and the Infrastructure Conditions Assessment for the Plant's core facilities. Also to be included is information collected during a goal-setting discussion for the Plant's Master Planning effort where 100 residents participated in this stakeholder workshop. Estimated completion date of the Plan is 2009-2010.

Plant Reliability Improvements Project

The Plant's Reliability Improvements Project is the largest addition to the facility in 20 years. The project is currently ahead schedule and will be completed by November 2007. The project includes the creation of a second, parallel headworks, a new raw sewage pump station, a supplemental filter influent pump station, and an 18 million gallon emergency overflow storage basin. The project allows the Plant to handle short-duration flows up to 400 mgd and will allow the Plant more time to respond and correct critical failures before any environmental impacts can occur. The electronic version of the operations and maintenance manuals are being prepared and will be completed by August in time for the start-up and commissioning of the new headworks facilities.

Regional and Sustainable Leadership Initiatives

The City is an active participant in regional initiatives that protect and enhance the watershed, including the Santa Clara Basin Watershed Management Initiative (WMI) and the South Bay Salt Pond restoration project. City staff continued serving as Vice-Chair and WMI coordinator through the summer of 2006. The WMI Core Group has since reduced its meeting schedule to quarterly. City staff chair the Land Use Subgroup and co-chair the Emerging Contaminants workgroup, which implement priority activities identified by the WMI. In addition, City staff continues to actively participate in the stakeholder forum of the State and Federal salt pond restoration project. The planning process for former salt pond A18 owned by the City will strive to be consistent with the salt pond restoration project. During 2006, the City coordinated conference calls with the Regional Water Board and the USFWS to share technical information and adaptive management approaches regarding water quality issues related to discharges from former salt ponds in the Alviso area.

The City, as a principal member of Bay Area Clean Water Agencies (BACWA), supports the Clean Estuary Partnership (CEP) and the Regional Monitoring Program (RMP) both financially and with in-kind services. Examples of in-kind services include the ongoing operation of a mercury sampling station for atmospheric deposition and the development of low-level cyanide analysis for testing water from shallow water dischargers to support the development of a cyanide attenuation factor. In addition, City staff actively participated in the Guadalupe River Watershed Mercury TMDL, the San Francisco Bay Mercury TMDL, the North of Dumbarton Bridge Copper and Nickel TMDL and the Basin Plan amendment process for cyanide.

Additional efforts in 2006 to promote sustainable management initiatives included Green Business Certification of San Jose City Hall, continued the implementation of the City's Green Building program, and the adoption of the United Nations Urban Environmental Accords by the San Jose City Council. In addition, the Environmental Services Department initiated work on the development of an Environmental Management System (EMS) in conformance with ISO 14001. The initial EMS process focused on the Municipal Water System. The Municipal Water System will be applying for ISO 14001 registration in 2007. The Plant is currently in the process of collecting information in support of developing an EMS.

ANNUAL POLLUTION PREVENTION REPORT

The pollution prevention (P2) program's mission and work extend beyond minimum permit requirements. Program features include elements such as a broad programmatic scope that supports pollutant reductions benefiting a variety of media (sanitary sewer, stormwater, biosolids, solid waste, and air), allows for resourceful collaboration taking advantage of partnering opportunities to solve regional issues, provides accessible outreach that actively works to create awareness and change behavior, and is responsive and adaptive enabling the best use of limited resources to proactively address issues instead of reacting only when it is mandated.

As previously stated, the City's holistic approach to a successful watershed management program seeks to integrate wastewater and urban stormwater programs, land use, and transportation planning, into a comprehensive plan to identify the most cost-effective and environmentally beneficial programs. Central to the City's approach is the acknowledgement of benefits provided by the Plant's effluent, such as recycled water uses and habitat improvements, the incorporation of green building principles in future development, and the promotion of energy conservation and renewable energy sources that reduce pollutant impacts to the watershed. Information about the City's green building or energy programs can be found on the following websites:

<http://www.sanjoseca.gov/esd/natural-energy-resources/greenbuilding.htm>

<http://www.sanjoseca.gov/esd/natural-energy-resources/energyresources.htm>.

The City is committed to striving for excellence in its pollution prevention efforts. The following highlights from 2006 include activities funded by the Plant as well as related activities from stormwater and solid waste.

In response to the Regional Water Board's letter of May 25, 2006, the City has considered the Board's suggestions and implemented several improvements to the format of this report. Most significantly, the identified pollutants of concern for the Plant are discussed in individual sections. Each section addresses the source and the estimated load of the pollutant, goals to address the pollutant, effectiveness measures and results of activities through the pollution prevention program for 2006, and outreach messages and tasks and activities planned for 2007. (see Attachment 5 of the Annual P2 Report for the City's response dated July 14, 2006.)

Furthermore in late 2006, the City initiated several organizational changes to enhance its pollution prevention efforts. A new section dedicated to Pollution Prevention was formed. This workgroup brings together wastewater pollution prevention efforts that had been occurring under multiple groups in a more unified and coordinated approach, and will allow the City to be more responsive in program development in the future.

During 2006, the City completed an Industrial Local Limits Re-evaluation and submitted a report to the Regional Water Board in June 2006 describing the evaluation and recommendations. The local limits review recommended simplifying the local limits for copper and nickel from a complex three-tiered approach to a single maximum allowable concentration. The review also determined that the current local

limits for xylene and manganese are no longer necessary and should be discontinued and that the selenium limit should be lowered. All other local limits were deemed adequate.

The City also completed sector loading sampling to update the residential, commercial, and industrial source identification information for copper, nickel, and mercury. The samples were also analyzed for cadmium, chromium, lead, silver, zinc, and total dissolved solids. The updated loading data will help identify and prioritize pollution prevention efforts, evaluate and modify the pretreatment program, determine allocation of resources and assist in development of rate structures.

Cyanide

The trunkline monitoring and enforcement programs were successful in resolving previous issues identified in 2005-2006 with cyanide discharges. Plant influent and effluent levels in 2006 have remained at the detection level. No spikes were detected.

Mercury

The City completed sampling for its Mercury Fate and Transport Study at the Plant. Initial results appear to confirm earlier preliminary studies that the Plant removes in excess of 95% of total and methyl mercury. The study provides valuable information on the fate of mercury through the Plant's treatment process and that may be useful to other similar treatment plants. Additional pollution prevention activities funded by solid waste programs included sponsoring a household hazardous waste (HHW) drop off station that collected 425 pounds of elemental mercury, over 65,000 pounds of fluorescent lights, over 50,000 pounds of household batteries and over 200 mercury containing thermometers.

In addition, the City began development of a dental program by meeting with the local dental association, and sending letters that included information on dental mercury concerns and Dental Amalgam BMPs to all tributary area dental offices. This program will be further developed in 2007.

Pesticides

The City holds annual training events on Integrated Pest Management (IPM) techniques for employees handling pesticide applications. All new contracts relating to maintenance of City facilities include the use of IPM techniques. In addition, the City co-hosted the third Annual Regional IPM Conference in November 2006 and participated in regional outreach on pesticide and IPM.

Emerging Pollutants

The City has been active locally and regionally in addressing emerging contaminants. As part of the work of the WMI's Emerging Contaminants workgroup, a white paper on triclosan was developed that was distributed nationwide. As a result, the Plant no longer purchases soaps containing triclosan. The City is also implementing an environmentally preferable purchasing policy and participates in the Product

Stewardship Council. As part of the City's Green Business Certification, employees attend Green Brown Bags sessions to learn about various environmental issues. One of these presentations focusing on personal care products, cleaning products and pharmaceuticals was also presented at San Jose State University, local nonprofit organizations, the Martin Luther King library, and the County's Green Business Conference.

In addition, the City participated in take-back events for used pharmaceuticals where participants dropped off over 825 pounds of medications and 20 mercury thermometers. These Safe Medicine Disposal days were extremely successful in the Bay Area and press coverage highlighted proper disposal methods for old medicines.

The HHW program, funded by solid waste tipping fees, supports pollution prevention efforts by the solid waste and stormwater programs as well as the source control program. In addition to products containing mercury, the HHW facility collected various pesticides.

Outreach Efforts

Significant outreach and training was performed this year, including staff training on pesticide applications. The City sent direct mail information to dentists to increase awareness of dental amalgam concerns and conducted a mail survey to determine the percentage of dentists using amalgam. The Tributary Tribune newsletter continued and one Industrial User (IU) academy class was offered this year. New outreach efforts were initiated in 2006 to educate residents about issues concerning emerging contaminants such as unwanted pharmaceutical disposal and antibacterial products.

The City held a 50th anniversary open house celebration at the Water Pollution Control Plant. Over 300 residents from the tributary area participated in tours and informational displays about the Plant, pollution prevention, and recycled water.

In response to City Council policy, ESD staff identified initiatives that the Department could undertake to support economic growth directives through its Business Environmental Assistance Initiative. Training was implemented to selected ESD staff that would allow them to speak with "One Voice" and to ensure that staff was conversant in all departmental functions (pretreatment, storm water, solid waste, energy, green building and green business) thereby providing enhanced customer service to the business community. One service is the City's pilot program for Integrated Environmental Assessments, a non-enforcement evaluation of small businesses to educate them on energy, water conservation, solid waste and pollution prevention. City staff performed 19 assessments as part of this pilot in 2006. Businesses have had a positive response to this pilot program and it will continue in the next fiscal year.

The City, as a founding member of the WMI and in partnership with the Santa Clara Valley Urban Runoff Pollution Prevention program, participated in the Watershed Watch Campaign designed to deliver watershed protection and pollution prevention messages. As part of active participation in BACWA and Bay Area Stormwater Management Agencies Association (BASMAA), San Jose participated in residential and commercial outreach to minimize chemical usage and educate the target audience about proper disposal practices of chemical and fats, oil and grease. The

City also actively participates in the Bay Area Pollution Prevention Group (BAPPG) to deliver pollution prevention messages to residents and businesses.

Youth education has also been an integral part of the City's program this year. The City's youth watershed education team develops and delivers watershed and pollution prevention messages to youth and youth educators through grants, curricula aligned to state standards, teacher workshops and partnerships with other agencies and organizations.

Future P2 activities

Future activities will include further development of the City's Dental Amalgam Program, enhancement to the City's comprehensive Fats, Oils and Grease (FOG) program, further research and pilot collection programs for pharmaceuticals, and collaboration with other agencies to promote legislation supporting Product Stewardship models to address pharmaceutical disposal and other pollutants of concern.

NEXT STEPS

All activities proposed in the Clean Bay Strategy are subject to the appropriation of funds by the San José City Council. Clean Bay Strategy Reports, as well as other studies and information related to South Bay Water Quality issues, may be found on the following website: <http://www.sanjoseca.gov/esd/>

